MODEL OR END ITEM	NEXT ASSY	MODULE OR SER NO.	REQD PER MODULE OR END ITEM
LEM	LDW300-28800	LEM-15(45)	2
LEM	LDW300-28800	LEM-14(44)	2
LEM	LDW300-28800	LEM-13(43)	2
LEM	LDW300-28800	LEM-12(42)	2
LEM	LDW300-28800	LEM-11(41)	2
LEM	LDW300-28800	LEM-10(40)	2
LEM	LDW300-28800	LEM-9(39)	2
LEM	LDW300-28800	LEM-8(38)	2
LEM	LDW300-28800	LEM-7(37)	2
LEM	LDW300-21800	M.S.C. LAB NOTE 11	1
LEM	LDW300-21800	DMSM(340)	1
		SCS (70)	2
		FCI (FC)	
		LTA-1R(14)	
		LEM-6(36)	
		LEM-5(35)	
		LEM-4(34)	
		LEM-3(33)	
		QUAL.TEST(70)	
		LEM-2(32)	
		LEM-1(31)	
LEM	LDW300-21800	LTA-8(18)	2

PART NO. LDW300-11812-21 — GAEC SCH NO. 34

MODEL OR END ITEM	NEXT ASSY	MODULE OR SER NO.	REQD PER MODULE OR END ITEM
LEM	LDW300-21800	LMS-2	2
		LMS-1	2
		FMES	2
		DMSM	1
		CRIT ENVIR TEST	3
		MIT LAB SEE NOTE 4	2
LEM.	LDW300-21800	LTA-1(11)	2

PART NO. LDW300-11812-19 — GAEC SCH NO. 34

2/

SH REV STATUS: FOR DESCRIPTION OF REV SEE SUBQ SH										
SHEET	1.00	1.10	2.00	3.00						
REV	D	D	C	C						
SHEET										
REV										
SHEET										
REV										

LAST SECT LTR USED	B	GRUMMAN REL INFO	C/D
LAST DASH NO. USED	-21	PRIM NO.	LE(003)
			257 ~~4110A~~ MP5B X

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES.
TOLERANCE UNLESS SPECIFIED FRACTIONS - DECIMALS - ANGLES ±1/64 ±.010 ± 1°

ORIG DWG AUTH

DETAIL SPEC REQUIREMENT

CLASS II ENGRG CHANGE

CLASS I ENGRG CHANGE

CONTRACT NO. NAS 9-1100 — LINE ITEM 2 — DOCUMENTATION TYPE III

DRAWN BY	E. ERICKSON 9-1-65	RELIABILITY	
LAYOUT BY	M. SMITH		
CHECKED BY	C. DUERR 9.8.65		
GR. LEADER			
STRUCTURE		PROJ ENGR	
STRUCTURE	Hilderman 9-24	REL GROUP	
WEIGHTS			

GRUMMAN AIRCRAFT ENGRG CORP
BETHPAGE, L. I., NEW YORK

BOOT
GUID., NAVIG., & CONTROL-TRANSLATION CONTROLLER
THROTTLE HANDLE

SIZE	CODE IDENT NO.		
B	26512	LDW300-11812	D

SCALE NONE — SHEET 1.00 OF 4

ENG 77.1 9-64

01 NAS 9-1100

NO.	I&T	NOMENCLATURE OR DESCRIPTION	MATERIAL	GOVT SPEC	COML SPEC	STOCK SIZE	PROCESS SYM	FINISH NO.	ZONE
312-21	E	BOOT	SEE NOTE 9&10				NONE	NONE	
312-19	E	BOOT	SEE NOTE 8				NONE	NONE	

GRUMMAN SPEC OR MILITARY SPEC	SYM OR NO.	PROCESS OR FINISH	GRUMMAN SPEC OR MILITARY SPEC

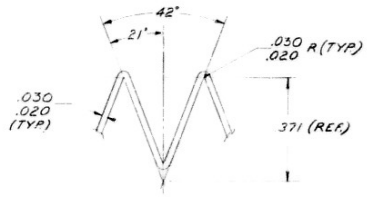
I & T: IDENTIFICATION AND TRACEABILITY IN ACCORDANCE WITH : NONE

GRUMMAN AIRCRAFT ENGRG CORP, BETHPAGE, L. I., NEW YORK

SIZE	CODE IDENT NO.		
B	26512	LDW300-11812	C

SCALE NONE SHEET 2.00

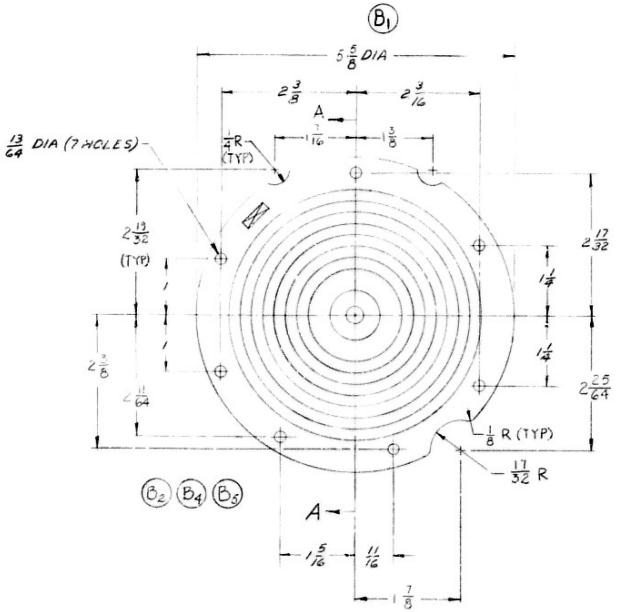
1 NAS 9-1100



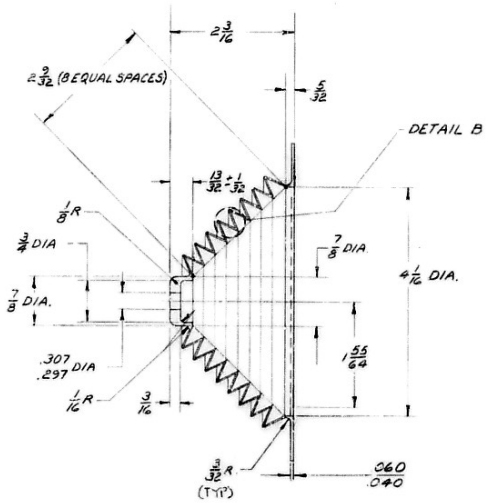
DETAIL B
SCALE: 5x SIZE (B5)

NOTES:
3. FLEXIBILITY OF MATERIAL MUST BE MAINTAINED BETWEEN TEMPERATURES OF -60°F & +200°F.
4. DELIVER TO MIT, CAMBRIDGE, MASS. AS AUTHORIZED BY CCA 31 (LTR BG54 65-97)
5. MATERIAL: POLYURETHANE, WITH SHORE A DUROMETER HARDNESS 50-60; COLOR #36231 GRAY PER FED STD #595 APPROX.
6. CONCAVITY OF EDGES PERMISSIBLE.
7. MATERIAL: SILICONE RUBBER, MINNESOTA MINING & MFG CO. EC-1663. ~~PROCURE PER GMPS-4101; PROCESS PER LSP-14-1420 (SHORE A DUROMETER HARDNESS 50-60).~~
8. MATERIAL - SILICONE RUBBER, GENERAL ELECTRIC CO. RTV-630. PROCESS AS FOLLOWS: COMPOUND/CATALYST MIX RATIO = 20:1 BY WEIGHT.
CURE: 1 HOUR AT 155°±6°C TEMPERATURE UNDER 60±10PSI PRESS.
INSPECTION NOTE: SHORE-A DUROMETER HARDNESS 30-50, COLOR: PASTEL BLUE
9. MATERIAL-SILICONE RUBBER, GENERAL ELECTRIC CO. RTV-630
PROCESS AS FOLLOWS: COMPOUND/ CATALYST MIX RATIO=20:1 BY WEIGHT.
CURE: 1 HR. AT 155°±5°C TEMP. UNDER 60±10 PSI PRESSURE
POST CURE: VACUUM BAKE AT 3mm Hg ABSOLUTE PRESSURE OR LESS @ 175°±5°C TEMPERATURE FOR 7 HRS.
INSPECTION NOTE: SHORE-A DUROMETER HARDNESS 30-50; COLOR-PASTEL BLUE
10. CLEAN PER LSP-14-7072
11. "AUTHORIZED BY CCA "237 (LTR BG 54-66-287)"

(B1)



(B2) (B4) (B5)



SECTION A-A
(B1) (B2) (B4)

LDW300-11812-19
LDW300-11812-21 (IDENTICAL TO-19 EXCEPT AS NOTED)
SCALE: FULL (C1)

MANUFACTURING OPERATIONS
UNLESS OTHERWISE SPECIFIED
NOTES CHECKED √ APPLY TO THIS DWG.

PART NUMBER AND ALL OTHER MARKINGS IN REGION MARKED USE BOTH SIDES IF NECESSARY.

FILLET AND INSIDE CORNER RADII TOLERANCES
.016R TO .062R ± .010
.063R TO .250R ± .015
OVER .250R ± .030

DEPTH SHOWN FOR TAPPED HOLES IS FULL THDS. 2-3 IMP THDS. BEYOND PERMISSIBLE.

EXTERNAL THREAD LENGTH SHOWN INCLUDES 2 IMPERFECT THREADS MAX.

DO NOT CADMIUM PLATE & PAINT HOLES OR SURFACES MARKED WITH DOUBLE ASTERISK.

MISMATCH STEP OF ± .005 PERMISSIBLE DUE TO CHANGE OF CUTTERS AT INSIDE INTERSECTING SURFACES.

DIAMETERS MARKED MUST BE CONCENTRIC WITHIN FULL INDICATOR READING

HOLES MUST BE KEPT FREE OF CHROME PLATING SOLUTION.

ALL DIMENSIONS SHOWN TO BE MET AFTER CADMIUM PLATING. THICKNESS OF PLATE .0003 MIN. TO .0005 MAX. MIN. THICKNESS TO BE .0002 ON THREADED AREAS. NO ALLOWANCE FOR PLATING IN HOLES

125 SURFACE ROUGHNESS INCLUDING REAMED HOLES PER MIL-STD-10

250 FOR ALL DRILLED HOLES

REMOVE ALL BURRS. BREAK ALL EDGES .015-.031

INSPECTION INFORMATION MINIMUM PERMISSIBLE AVERAGE EDGE DISTANCE MARKED IS

SYMBOL ∛ DENOTES SURFACE TO BE MACHINED

UNLESS OTHERWISE SPECIFIED TOLERANCE ON FLANGES IS ± 1/32

LENGTHS OF AN, NAS & MS AL ALY RIVETS SHORTER THAN 1 INCH ARE NOT SPECIFIED.

TOLERANCE ON LOFTED DELINEATIONS IS

GRUMMAN AIRCRAFT ENGRG CORP., BETHPAGE, L. I., NEW YORK

SIZE	CODE IDENT NO.		
D	26512	LDW300-11812	C

LEM — MODEL OR END ITEM — SCALE NOTED — SHEET 3 OF

SUPERSEDES LDW300-11812 1 NEXT

LDW300-11812 C

01 NAS 9-1100

REVISIONS

CHANGE LTR	ITEM NO.	SHEET NO.	ZONE	SH CHG LTR	GRUMMAN INFO ONLY	DET SPEC	CLASS I	CLASS II	ENGRG ORDER	DESCRIPTION	EFFECTIVITY	DISPOSITION OF EXISTING PARTS: REWORK	DISPOSITION OF EXISTING PARTS: SCRAP	CHANGED BY AND DATE	ENGRG APPD	GOVT APPD
A	1	1.10								SHEET 1.00 OF 4 WAS 1.00 OF 3, ADDED SHEET 1.10	NOT REQD	NOT	REQD	G. Kamm 11/19/65	JAO	
	2	1.00 2.00 3.00								PART REDESIGNED, -13 WAS -11	NOTED		✓ -11		M.	
B	1	1,1.10,2,3						✓	EO B1	-15 WAS -13. ADDED NOTE *6	NOTED		✓ 4B	CARR 1-25-66		
	2	1,1.10,2,3	4A					✓	EO B2	ADDED -17, DELETED -15 ADDED NOTE 7	NOTED		-15	M. COLEMAN LOEW APRIL 19, 1966		
	3								EO B3	SUPERSEDED BY EO B4	NOT REQD	NOT	REQD			
	4	1,1.10,2,3	4A						EO B4	THIS IS A REVISION OF AND SUPERSEDES EO B3 ADDED -19; DELETED -17. ADDED NOTE 8, DELETED NOTE 7	NOTED		-17			
	5	1,1.10,2,3	7B 7D						EO B5	ON -19, IN DETAIL B, DIM .030/.020 WAS .025/.020 & .030/.020 R WAS .025/.020 R. ADDED PIECE MARKING.		✓	4B			
C	1	1.10,2 & 3	4A 3C						E.O. C1	ADDED -21; DELETED FOR -19 EFF., LTA-8, LEM-1 THRU LEM-6, QUAL. TEST, LTA-1R, FC1, SCS, DMSM. ADDED NOTE "9	NOTED	✓		P. KOCHLING 7-12-66		
	2	1.10,2 & 3	3C						E.O. C2	ON -21 IN NOTE 9 UNDER "POST CURE" 3mm Hg WAS 2.5PSI; 175° ± 5°C WAS 155° ± 5°; ADDED CLEANLINESS REQMT. ADDED NOTE 10	NOTED	✓				
	3	1,1.10 & 3	3C						LEO 300-14	FOR -21 IN MOD. BLK ADDED EFF. M.S.C. LAB, SEE NOTE 11	NOTED	NOT	REQD 4L			
D	1	1.1.10							LEO 300-18	FOR -21 IN MOD. BLK ADDED EFF. LEM-7(37) THRU LEM-15(45)	NOTED	NOT	REQD 4L	BENNETT 9-15-66		

FOR CONTINUATION OF REVISIONS SEE SHEET

ENG 77.3 5-64

GRUMMAN AIRCRAFT ENGRG CORP, BETHPAGE, L. I., NEW YORK

SIZE	CODE IDENT NO.		
B	26512	LDW300-11812	D

SCALE NONE SHEET 1.10

01

NAS 9-1100

GRUMMAN AIRCRAFT ENGINEERING CORP.
CODE IDENT NO. 26512
ENGINEERING ORDER

DWG. NO. LDW300-11812 | EO NO. E1
CONTROL INFO NO. LDW300-235

ENG 32.1 REV 3-65

REF EO B4: IN MOD. BLK. FOR-21, N/A LDW300-21800
SHOULD BE LDW300-28800 FOR EFF. LTA-8, QUAL TEST,
LTA-1R, FCI, SCS, DMSM, LEM-1 THRU-6.

ADD NOTE : LDW300-11812-21 IS INTERCHANGEABLE WITH
-19 AND MAY BE USED FOR SPARES OR
REPLACEMENTS.

ADD "SEE NOTE*" TO -19 & -21 IN B/M PART NO. CALLOUT.
*USE NEXT AVAILABLE NOTE NUMBER.

IN MOD. BLK. FOR-19, FOR CRIT. ENVIR. TEST, QUAN (2) WAS (3).
(USE AS SPARE)

DETAIL SPEC REQ | CL II ENGRG CHG | CL I ENGRG CHG

REASON FOR EO: DRAFTING ERROR. ADD INTER-CHANGEABILITY NOTE. REVISE QUANTITY

DESCRIPTION OF EO: ADDED NOTE"*". ADDED TO B/M "SEE NOTE"*" TO -19 & -21. CRIT. ENVIR. TEST QUAN. (2) WAS (3). REF EO B4; IN MOD. BLK FOR-21, N/A LDW300-28800 WAS LDW300-21800 (DRAFTING ERROR).

6

GAEC EO RELEASE: FS 10-7-66 | 10-6-66

MODEL	EFFECTIVITY		
LEM	LTA-1(11), -8(18)	LMS-1, -2	DMSM
LEM	M.I.T. LAB SEE NOTE*4	QUAL TEST (70)	M.S.C. LAB SEE NOTE*11
LEM	CRIT. ENVIR. TEST	LTA-1R (14)	LEM-1 THRU LEM-15 (31
LEM	DMSM, FMES	FCI (FC), SCS (70)	THRU 45)

DRAWING CHANGE REQD: REVISE DWG ✓ | RECORD EO
DISPOSITION OF PARTS: NOT REWORK | REQ'D SCRAP
APPROVED BY: NAO | DATE 10-3-66
SUPPORT | RELIAB. GROUP | GROUP LEADER | STRESS GROUP | LIAISON ENGRG | PROJ ENGRG

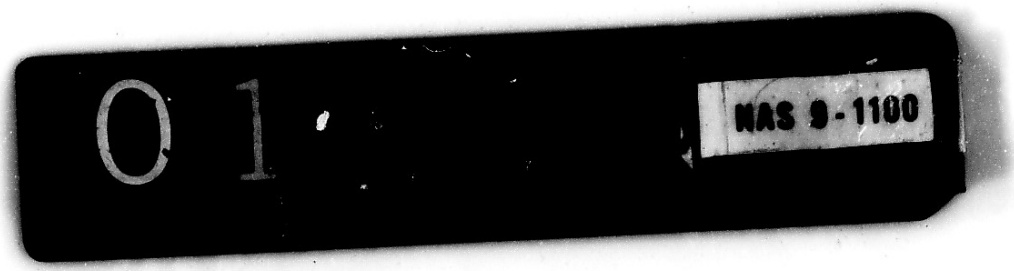
PRIORITY: C

DRAWING TITLE: BOOT - GUID., NAVIG., & CONTROL-TRANSLATION CONTROLLER-THROTTLE HANDLE

DRAWING NO.: LDW300-11812

EO NO.: E1

ISSUED BY FRANK PEPE x1671 9/30/66 SECTION GN & C GROUP NO. 300 PL 35 EMF



GRUMMAN AIRCRAFT ENGINEERING CORP.
CODE IDENT NO. 26512

ENG 32.2 REV 3-65

ENGINEERING ORDER

DWG. NO. LEO300		EO NO. 14
CONTROL INFO NO. LDW300-189		

*USE NEXT AVAILABLE NOTE NO.

ADD NOTE * "AUTHORIZED BY CCA#237 (LTR BG 54-66-287)."

ADD TO MODEL BLOCK, FOR DASH NOS. NOTED, THE EFF. AS SHOWN ON THE FOLLOWING DWGS.

LEM	MSC LAB (*) (#SUB?) SEE NOTE*	1
MODEL	MODULE OR END ITEM	QTY

PART NO.	DASH NO.	NEXT ASSY.	CHG LETTER
LDW300-11803△	-1	LDW390-21056	B1
-11806△	-1	LDW300-28805	A2
-11809△	-3	-21801	C1
-11811△	-3	-21801	C4
-11812	-21	-21800	C3
-11817△	-11	-21809	C1
-11818△	-3	-21806	C3
-11820△	-13	-21808	C1
-11824△	-1	-21806	B2
-11825△	-1	-21801	A1
-11828△	-3	-21802	C1
LDW300-11831	-11	-21806	A2
LDW300M11800△	-1	-21802	A1
M11809△	-1	-21800	B1
M11821	-5	-21802	B1
M11822	-3	-28805	B1
M11823△	-1	-21806	B1
M11824	-3	-28805	B1
M11825	-3	-21806	C4
M11826△	-1	-21802	C1
M11827	-3	-21808	C1
M11831	-3	-21802	C1
M11832	-7	-21802	C1
M11833△	-3	-21802	C1
M11835△	-1	-21802	C1
M11836△	-1	-21802	C1
M11839△	-1	-21802	C1
LDW300M11842△	-1	LDW300-21801	C1

PART NO	DASH NO.	NEXT ASSY	CHG LETTER
LDW300M11847△	-7	LDW300-21804	B2
M11848△	-1	-21809	B1
M11849△	-3	-21807	C1
M11851△	-1	-21806	C1
M11852△	-3	-21806	C1
M11853△	-1	-21800	C1
M11854	-3	-21806	C1
M11855	-3	-21806	B2
M11856	-3	-21806	C1
M11857△	-1	-21801	B1
M11859	-3	-21801	C1
M11860△	-1	-21801	B1
M11861△	-1	-21806	C1
M11863△	-1	-21800	B2
M11865△	-3	-21806	C1
M11866	-5	-21806	C1
M11868△	-3	-21806	C1
M11869△	-3	-21806	C1
M11872△	-5	-21801	C1
M11873△	-3	-21806	D1
M11874△	-1	-21806	B1
M11875△	-3	-21806	C1
M11877△	-1	-21800	B1
M11880	-3	-21801	B2
M11881△	-1	-21806	C1
M11883△	-1	-21806	B2
M11885	-3	-21806	B2
M11887△	-3	LDW300-21806	C1
M11888△	-1	LDW300P11816	C1
LDW300M11828△	-1	LDW300-21802	C1

△ IN MODEL BLOCK FOR CRIT. ENVIR. TEST CHANGE QUAN. (3) TO (2).

▲ USE APPLICABLE DASH NO IN DESCRIPTION OF EO

6

DETAIL SPEC REQ	CL II ENGRG CHG	CL I ENGRG CHG	

REASON FOR EO: UPDATE EFFECTIVITY PER CCA#237 (LTR BG 54-66-287)

DESCRIPTION OF EO: FOR - ▲ IN MOD BLK. ADDED EFF. M.S.C. LAB, SEE NOTE *. & FOR CRIT. ENVIR. TEST QUAN. (2) WAS (3).

(B) GAEC SO RELEASE C — X16 AMP 7-9-66

MODEL	EFFECTIVITY: PROCURING ACTIVITY NO.	GAEC UNIT NO.	SUB CONTR UNIT NO.	DRAWING CHANGE REQD: REVISE DWG	RECORD EO	DISPOSITION OF PARTS: REWORK	SCRAP	APPROVED BY	DATE	SUPPORT	RELIAB. GROUP	GROUP LEADER	STRESS GROUP	LIAISON ENGRG	PROJ ENGRG	DEPT
LEM	NOTED	ABOVE		V		NOT REQ'D		AO	6-30-66			6/30/66	6-30		14 Lh	7-1-66

PRIORITY	DRAWING TITLE	DRAWING NO.	EO NO.
C	NOTED	LEO300-	14

ISSUED BY FRANK PEPE x1672 6/29/66 SECTION GN&C GROUP NO. 300 PL 35

NAS 9-1100 01